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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,860	01/25/2002	Sebastien Bigo	Q68100	8578

7590 05/19/2006
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EXAMINER

SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,860

Applicant(s)

BIGO ET AL.

Examiner

Dalzid Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 provides for the use of modulators, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 2 (as far as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigo et al, "5.12 Tbit/s (128x40 Gbit/s WDM) transmission over 3x100 km of TeraLight Fibre", herein after referred to as "Bigo et al" in view of Shirasaki (US Patent No. 6,556,742).

Regarding claim 1, Bigo et al disclose method for modulating a NRZ nonreturn to zero (NRZ) signal transmitted to a receiver utilizing alternating left side and right side filtering for adjacent channels having alternating channel spacing (see Fig. 1 for left-side filtering and right side filtering), the method comprising:

modulating channels which are to be subjected to the right side filtering using a modulator (in Fig. 2, Bigo et al show modulator (M-Z), on the upper portion, for modulating the right side); and

modulating channels which are to be subjected to the left side filtering using a modulator (in Fig. 2, Bigo et al show modulator (M-Z), on the lower portion, for modulating the right side).

Bigo et al differ from the claimed invention in that Bigo et al do not specifically disclose that the modulator provide positive and negative chirp. However, as shown in Fig. 1, Bigo et al show left-side filtering and right side filtering. The circuit structure for generating such filtering is shown in Fig. 2, which does not show any filter element to provide left-side filtering and right side filtering. Such effect is the result of controlling the M-Z modulators. The control point which produces left-side filtering may be considered as negative chirp and the control point which produces right-side filtering may be considered as positive chirp. Shirasaki teaches the use of Mach-Zehnder (M-Z)

modulator to separate optical signals into odd and even channels (which can be considered as left-side and right-side) (see Figs. 16B and 16C and col. 12, lines 30-38 and col. 13, lines 26-39). Such different groups of channels are produced by controlling the modulators. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to utilize Mach-Zehnder modulators to provide left-side and right side filtering. One of ordinary skill in the art would have been motivated to do such in order to increase transmission rate.

Regarding claim 2, in Fig. 1, Bigo et al show that the central frequencies of two consecutive filters, whether left-side or right-side, are equidistant in the frequency domain (see also 1st page, 2nd column, lines 1-12).

Allowable Subject Matter

5. Claims 3-5 are allowed.

Response to Arguments

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS

May 13, 2006

David Singh